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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,260	02/22/2002	Jorg Arnold	34691/243032	1600

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EXAMINER
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WILLIAMS, JOSEPH L

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/069,260	<b>Applicant(s)</b> ARNOLD, JORG	
	<b>Examiner</b> Joseph L. Williams	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-44 and 46-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-44 and 46-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/14/03 &amp; 2/22/02</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The amendment filed on 14 October 2003 has been entered.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 42 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 42, it is not clear what diameters fall within the range of being "only slightly smaller".

For the purpose of this Action, the Examiner assumes that any filament diameter smaller than the bulb diameter reads upon the above limitation.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29, 31, 32, 36, 39, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire (US 5,666,017) in view of Noll (US 6,555,948), of record.

Regarding claim 29, McGuire ('017) teaches in figures 19 and 20, and in column 17, line 64 through column 27, line 11, a light source (600) comprising a bulb (604) having an inner surface and an outer surface (no number for either), a filament (602) mounted within the bulb (604), a heating device (see lead 60, 62 in figure 1) for the filament whereby the filament can be heated to cause the emission of both visible light and heat radiation, and a dielectric multilayer coating positioned entirely on the inner surface of the bulb (see column 19, lines 42-50), the dielectric multilayer coating being spectrally selective so as to substantially reflect the heat radiation of the filament while substantially transmitting the visible light thereof.

McGuire ('017) does not disclose the filament including a flat section.

Further regarding claim 29, Noll ('948) teaches in figure 1 and column 2, lines 50-54, a filament for a lamp that includes a flat section for the purpose of improving the brightness of the lamp (read "higher light yield").

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flat filament of Noll in place of the filament of McGuire for the purpose of improving the brightness of the lamp.

Regarding claim 31, Noll ('948) teaches in column 3, line 1, that the filament can be made of tungsten.

The reason for combining is the same as for claim 29 above.

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Regarding claim 32, Noll ('948) teaches in column 5, line 14, that the filament can be made of a nonmetal (read SiC).

The reason for combining is the same as for claim 29 above.

Regarding claim 36, Noll ('948) teaches in figure 1, part 15, that the flat section of the filament comprises a strip with two longitudinal sides.

The reason for combining is the same as for claim 29 above.

Regarding claim 39, Noll ('948) teaches in figure 1, part 15, that the flat section of the filament is substantially planar.

The reason for combining is the same as for claim 29 above.

Regarding claim 44, Noll ('948) teaches in figure 1, that the heating device comprises a pair of electrical contacts (60, 62) coupled to the filament for delivering an electrical current to the filament.

The reason for combining is the same as for claim 29 above.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire ('017) in view of Noll ('948) as applied to claim 29 above, and further in view of Koo (US 3,927,989).

Regarding claim 30, McGuire ('017) in view of Noll ('948) discloses all of the claimed limitations except for the filament comprising a sintered metal powder.

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Further regarding claim 30, Koo ('989) teaches in column 7, lines 25-50 and in the abstract that the filament is made of a sintered metal powder for the purpose of making the filament resistant to sag and thus increase the lifetime of the filament, and in turn the lamp.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sintered metal powder of Koo to make the filament of McGuire in view of Noll for the purpose of making the filament resistant to sag and thus increase the lifetime of the filament, and in turn the lamp.

Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire ('017) in view of Noll ('948) as applied to claim 29 above, and further in view of Bird (US 3,237,284).

Regarding claim 33, McGuire ('017) in view of Noll ('948) discloses all of the claimed limitations except for the filament comprised of a metal carbide selected from the group including tantalum carbide.

Further regarding claim 33, Bird ('284) teaches that the filament is comprised of tantalum carbide for the purpose of increasing the lifetime of the filament and thus the lamp.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tantalum carbide filament of Bird in place of the filament of McGuire in view of Noll for the purpose of increasing the lifetime of the filament and thus the lamp.

Regarding claim 34, Bird ('284) teaches that the filament is coated with a coating material which has a higher melt temperature than the filament (McGuire in view of Noll has a filament made of SiC, which can be coated with tantalum carbide as taught by Bird).

The reason for combining is the same as for claim 33 above.

Regarding claim 35, Bird ('284) teaches that the filament is coated with tantalum carbide.

The reason for combining is the same as for claim 33 above.

Claims 37, 38, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire ('017) in view of Noll ('948) as applied to claim 29 above, and further in view of Pirani (US 1,726,365), of record.

Regarding claim 37, McGuire ('017) in view of Noll ('948) discloses all of the claimed limitations except for the filament comprising two surface elements project from each of the respective longitudinal sides of the strip in the form of wings.

Further regarding claim 37, Pirani ('365) teaches in figures 6 and 7 for the filament of a lamp comprising two surface elements project from each of the respective

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longitudinal sides of the strip in the form of wings for the purpose of improving the brilliance of the filament.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filament structure of Pirani in place of the filament of McGuire in view of Noll for the purpose of improving the brilliance of the filament.

Regarding claim 38, Pirani ('365) teaches each of the surface elements projects from the strip at an angle of about 90 degrees (read "somewhat more than 90 degrees" in column 2, lines 79-80).

The reason for combining is the same as for claim 37 above.

Regarding claim 46, Pirani ('365) teaches (figures 6-9) the flat section of the filament is of inverted U-shaped configuration to define two longitudinal sides which are almost back to back and which are integrally coupled at upper ends thereof, and wherein the heating device includes a pair of electrical contacts joined to respective ones of the longitudinal sides adjacent the opposite ends thereof.

The reason for combining is the same as for claim 37 above.

Regarding claim 47, Pirani ('365) teaches the two longitudinal sides are each in the form of a U-shaped channel section.

The reason for combining is the same as for claim 37 above.



Claims 29, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire ('017), of record, in view of Almer (US 4,144, 473).

Regarding claim 29, McGuire ('017) teaches in figures 19 and 20, and in column 17, line 64 through column 27, line 11, a light source (600) comprising a bulb (604) having an inner surface and an outer surface (no number for either), a filament (602) mounted within the bulb (604), a heating device (see lead 60, 62 in figure 1) for the filament whereby the filament can be heated to cause the emission of both visible light and heat radiation, and a dielectric multilayer coating positioned entirely on the inner surface of the bulb (see column 19, lines 42-50), the dielectric multilayer coating being spectrally selective so as to substantially reflect the heat radiation of the filament while substantially transmitting the visible light thereof.

McGuire ('017) does not disclose the filament including a flat section.

Further regarding claim 29, Almer ('473) teaches in figures 9 and 10, a filament for a lamp which includes a flat section for the purpose of improving the brightness of the lamp.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flat filament of Almer in place of the filament of McGuire for the purpose of improving the brightness of the lamp.

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Regarding claim 40, Almer ('473) teaches the section of the filament is the form of least a portion of a cylindrical jacket.

The reason for combining is the same as for claim 29 above.

Regarding claim 41, Almer ('473) teaches the at least a portion of a cylindrical jacket includes lengthwise extending opening.

The reason for combining is the same as for claim 29 above.

Regarding claim 42, Almer ('473) teaches the at least portion cylindrical jacket defines a diameter which is only slightly smaller than a diameter defined by the bulb.

The reason for combining is the same as for claim 29 above.

Regarding claim 43, Almer ('473) teaches the bulb defines a longitudinal axis, with the filament being configured to define a coaxial center axis.

The reason for combining is the same as for claim 29 above.

Claim 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire (US 5,666,017) in view of Noll (US 6,555,948) and Koo (US 3,927,989), of record.

Regarding claim 48, McGuire ('017) teaches in figures 19 and 20, and in column 17, line 64 through column 27, line 11, a light source (600) comprising a bulb (604), a

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filament (602) mounted within the bulb (604), a heating device (see lead 60, 62 in figure 1) for the filament whereby the filament can be heated to cause the emission of both visible light and heat radiation, wherein the bulb includes an inner surface which includes a mirror coating which comprises a dielectric multiplayer coating

McGuire ('017) does not disclose the filament including a flat section or the filament comprising a sintered metal powder.

Further regarding claim 48, Koo ('989) teaches in column 7, lines 25-50 and in the abstract that the filament is made of a sintered metal powder for the purpose of making the filament resistant to sag and thus increase the lifetime of the filament, and in turn the lamp.

Further regarding claim 48, Noll ('948) teaches in figure 1 and column 2, lines 50-54, a filament for a lamp which includes a flat section for the purpose of improving the brightness of the lamp (read "higher light yield").

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filament composition of Koo and the filament structure of Noll in the lamp of McGuire for the purpose of making the filament resistant to sag and thus increase the lifetime of the filament, and in turn the lamp and for the purpose of improving the brightness of the lamp.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire ('017) in view of Noll ('948) and Koo ('989) as applied to claim 48 above, and further in view of Bird (US 3,237,284).

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Regarding claim 49, McGuire ('017) in view of Noll ('948) and Koo ('989) discloses all of the claimed limitations except for the filament is coated with a coating material which has a higher melt temperature than the filament

Further regarding claim 49, Bird ('284) teaches that the filament is comprised of tantalum carbide for the purpose of increasing the lifetime of the filament and thus the lamp.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tantalum carbide filament of Bird in place of the filament of McGuire in view of Noll and Koo for the purpose of increasing the lifetime of the filament and thus the lamp.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 29-44 and 46-49 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

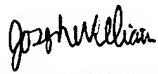
***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Joseph Williams**

**Examiner**  
**Art Unit 2879**